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# THE ROLE OF FIRM-SPECIFIC VARIABLES IN EXPLAINING HETEROGENEOUS STOCK MARKET REACTIONS TO DIVIDEND ANNOUNCEMENTS

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## Abstract

*The finance literature reports mixed results about the dividend announcements and stock market reaction to those announcements. This study posits that the heterogeneous reaction of stock market to dividend announcements might be a result of several firm-specific financial and non-financial factors. In this vein, this study has tried to analyze the role of family-ownership, firm-size, leverage, and dividend yield in defining the dividend announcement effects. Using a sample of 206 dividend announcements of 136 firms listed at the Pakistan Stock Exchange over the period of 2008 to 2012, the results of both the univariate tests and the regression analysis show that the reaction of stock market to dividend announcements varies significantly across different groups of firms. Specifically, our results show that family ownership, firm-size, dividend yield and leverage significantly mediate the reaction of stock market around dividend announcement days.*

**Keywords:** Heterogeneous Reaction, Abnormal Returns, Family Ownership, Pakistan Stock Exchange.

**JEL Classification:** G 230

## Introduction

The corporate dividend policy have been a widely-debated subject in the domain of corporate finance and a large number of studies has explored different angles of dividend policy. One such angle is the stock market reaction to dividend announcements. Miller and Modigliani (1961), argues that dividend policy does not impact the firm value in perfect capital markets. However, Jensen's (1986) Free Cash Flow (FCF) theory and Cash Flow Signaling Theory presented by Ross (1977), John and Williams (1985), Bhattacharya (1979), and Miller and Rock (1985) have rejected the argument of Miller and Modigliani (1961) by supporting notion that firm value is affected by dividend policy. Both these theories suggest positive correlation between dividend announcements and the reaction of the market to the dividend announcements. However, the empirical studies report mixed results regarding dividend announcement effects.

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Some studies including Aharony and Swary (1980), Pettit (1972, 1976), Asquith and Mullins (1983), Gurgul et al. (2003), Yilmaz and Gulay (2006), Dasilas and Leventis (2011) have supported both these hypothesis by reporting positive abnormal returns around dividend announcement days. On the other hand, there are some other studies which have rejected the idea of positive correlation between the announcements of dividend and the sub-sequent stock market price reaction (Lang and Litzenger, 1989; Abeyratna and Power, 2002; Chen, Firth and Gao, 2002; Vieira, 2005; and Hossain, Siddiquee and Rahman, 2006). These studies have found no significant evidence of association between dividend announcements and reaction of stock market to these announcements. Further, some studies even have reported evidences of negative correlation between the announcements of dividend and the sub-sequent stock market share price reaction (Dhillon and Johnson, 1994; Benesh, Keown and Pinkerton, 1984; and Healy, Hathorn and Kirch, 1997).

These mixed results of the past studies might be an outcome of different factors that mediates the dividend announcement effects. A number of factors are identified by literature that affects the dividend announcement effects. Baker, Powell and Veit (2002) and Baker and Powell (1999) have highlighted that firm specific factors may impact the association between the dividend announcements and the sub-sequent reaction of stock market. Further, La Porta et al. (2000), and Ball et al. (2000) have argued that the ownership structure also plays a vital role in explaining the dividends information content and in turn the reaction of market to dividend announcements.

A number of studies, including Eddy and Seifert (1988), Ghosh and Woolridge (1988) Haw and Kim (1991), Healy et al. (1997), Said (2012), Vieira (2011), around the globe have tried to empirical test the association between different factors and dividend announcement effects. However, in Pakistan, no study until the date has tried to empirically figure out the variables that affect the dividend announcement effects of Pakistani firms. In this context, this study has made an attempt to determine the variables that explains the information content of dividends of Pakistani firms. Particularly, this study has focused on the firm-specific factors and more specifically the firm size, ownership composition of a firm (whether a firm is family and non-family), leverage ratio and dividend yield.

### **Literature Review**

This section presents the literature review of the past studies. First, the literature review of those studies has been discussed which focuses on association between the dividend announcements and the share price reaction. Later the focus is shifted to factors that moderate the above-mentioned relationship.

#### *Stock Market Reaction to Dividend Announcements*

A large number of researchers have analyzed the dividend policy and its impact on the value of the firm since the seminal work of Miller and Modigliani (1961). They have used different theories to describe the link between the firm value and the dividend policy. Two prominent theories out of these are free cash flow (FCF) theory of Jensen (1986) and cash flow signaling (CFS) theory. CFS theory which is also called asymmetric information theory has been developed by a number of researchers including Ross (1977), Miller and Rock (1985), Bhattacharya (1979), and John and

Williams (1985). This theory proposes that the firm's managers, as compared to shareholders (investors), have more private information about the firm's future prospects and they signal this private information to the market via dividend changes. Hence, when increase in dividends is announced by a firm, the stock market assumes that the future prospects of that particular firm are good and hence reacts positively. On the other hand, when a firm cuts dividend, the stock market assumes that the future prospects of that particular firm are not good and hence reacts negatively, which results in lower share prices of the firm. Therefore, in the context of CFS, it is expected that the stock market will react positively whenever dividends are announced by a firm.

The second theory i.e. FCF theory was developed by Jensen (1986) and is based on the agency relationship between managers and shareholders. This theory suggests that dividend plays a disciplinary role for the firm's management. Distribution of free cash flows in the form of dividends decreases the conflict between managers and shareholders by making it less likely for managers to invest free cash flows in projects that have negative net present value. According to this argument, dividend announcements should result in increase in the stock prices. Therefore, like CFS theory, this theory also predicts positive correlation between dividend announcements and prices of stock.

The empirical support for both the theories is mixed. Several studies including Aharony and Swary (1980), Pettit (1972, 1976), Gurgul et al. (2003), Asquith and Mullins (1983), Dasilas and Leventis (2011), and Yilmaz and Gulay (2006), have supported both these theories by reporting significant abnormal returns around announcement days. On other hand, other studies have reported evidence that does not support these theories (Lang and Litzenberger, 1989; Abeyratna and Power, 2002; Vieira, 2005; Hossain et al., 2006; and Chen, et al., 2002). These studies have found no significant abnormal returns around announcement dates. Further, some studies even have reported evidences of negative correlation between the dividend announcements and the subsequent reaction of stock market (Dhillon and Johnson, 1994; Benesh, et al., 1984; and Healy et al., 1997).

#### *Moderating Role of Firm-Specific Factors*

Literature suggests that the mixed evidence as discussed above might be an outcome of different factors that moderates the stock market response to the dividend announcements. These factors include firm size, family ownership, leverage and dividend yield. We discuss these factors in details in the following paragraphs.

#### *Family ownership*

Capulong et al. (2000) has stated that ownership composition and ownership concentration are the two key important dimensions of corporate ownership structures. Concentration of ownership deals with the distribution of power between the shareholders and the managers while on the other hand, composition of ownership deals with the identity of shareholders of a company and specifically the large shareholders. A large shareholder (also called block-holder) can be government, holding company, individual, bank, institutional investor or family. Thus, broadly speaking there are two categories of ownership composition: the family block-holder and non-family block-holder. According to Holderness and Sheehan (1988), and Gugler (2001), family block holder has different motiva-

tions and incentives to monitor the managers. Gorton and Kahl (1999) have argued that as compared to non-family block-holder, the family block-holders have greater incentive of monitoring the managers. Due to the better monitoring, the family block-holders affect the reaction of stock market to dividends announcements.

There are two leading theories that explain the relationship of family ownership with dividend announcements effects. These include the Jensen and Meckling's (1976) agency cost theory and Leland and Pyle's (1977) general signaling theory. Under the Jensen and Meckling's (1976) agency cost model, it is argued that due to the better monitoring efforts of family owners, shareholders-managers interests are better aligned which reduces the agency conflicts and the agency costs. Therefore, if reducing agency conflicts is the motivation behind the announcement of dividend changes, then the firms with family block-holder will experience weaker dividend announcement effects as compared to the firms with non-family block-holder. Under general Leland and Pyle's (1977) theory of general signaling, it is argued that due to the better monitoring of managers by the family block-holders, the credibility of the manager's decisions and the signals that they convey to the market increases. Therefore, due to higher credibility, the firms with family block-holders will experience stronger dividend announcement effects as compared to firms with non-family block-holder.

Unlike the ownership concentration, only few researchers have empirically analyzed the dividend announcement effects in the context of family and non-family ownership. Therefore, this area is relatively unexplored and not enough evidences are available on this area. Recently, researchers have started exploring the relation between family ownership on dividend announcement effects. Setia-Atmaja, et al. (2004) are the first researchers who have analyzed the role of family ownership in mediating the dividend announcement effects in Australian environment. They reported positive relationship between family firms and dividend announcement effects. Contrary to Setia-Atmaja, et al. (2004), Vieira (2012) has reported no evidence from Portuguese Environment.

As discussed above, the agency cost theory predicts negative relationship while general signaling model predicts positive correlation between family ownership and dividend news effects. Hence, this study has formulated the following two competing hypothesis regarding relationship between family ownership and dividend announcement effects.

*H1a:* Family ownership and stock market reaction to dividend news are negatively associated. Hence, abnormal returns associated with dividend news of family firms are less than abnormal returns associated with dividend announcement of non-family firms.

*H1b:* Family ownership and stock market reaction to dividend news are positively associated. Hence, abnormal returns associated with dividend news of family firms are greater than abnormal returns associated with dividend announcement of non-family firms.

#### *Firm size*

The literature has identified the firm size as another potential variable that moderate the dividend announcement effects. The role of the size of the firm in determining the dividend announcement effects can be described in the context of signaling or asymmetric information theory of John and Williams (1985), Bhattacharya (1979), and Miller and Rock (1985). Under this theory, it is assert-

ed that as information asymmetry between equity holders and managers of firm is greater in case of the small size firms as compared to firms with large size; therefore, when small size firm tries to distribute more dividends, for the purpose of conveying signals to the outside investors about their future prospects, will experience greater dividend announcement effects. Therefore, in this context, negative relationship exists between the size of the firm and the dividend news effect.

Empirical studies reports mixed results about the firm size relationship with the dividend announcement effects. Eddy and Seifert (1988) and Eddy and Seifert (1988) have reported negative association from the U.S. Amihud and Li (2006) and Yoon and Starks (1995). Gugler and Yurtoglu (2003) and Andres et al. (2011) have also supported signaling theory by reporting negative association from German environment. Vieira (2011), by utilizing the data of the UK, Portuguese and the French markets, have provided further evidence from the European market. She has reported interesting results. Her study found that dividend announcement effect is negatively correlated with the firm size only in the UK market while her study reported no evidence of significant association in the French and Portugal markets. Hussainey et al. (2011) and Zakaria et al. (2012) have also reported the same results from the U.K and the Malaysian Markets.

Based the on above literature and information asymmetric theory, this study has tested the following hypothesis:

*H2*: Reaction of stock market to the dividend news is negatively associated with the firm size. Hence, abnormal returns associated with dividend news of small-sized firms are greater than the abnormal returns associated with the dividend announcement of the large-sized firms.

### *Leverage*

Leverage is another firm specific variable that is identified by the literature as a potential determinant of the stock market reaction to the dividend news. Said (2012) and Vieira (2011) has defined leverage as the ratio of total debt divided by total assets. The role of leverage in determining the dividend announcement effects is explained both by Jensen's (1986) version of FCF agency cost argument and signaling explanation of Ross (1977). Using Jensen's (1986) argument, Borokhovich et al. (2005) have highlighted that the agency costs are lower in the firms that have higher debt ratios as managers in these firms are left with little cash flows under their discretions due to the payment of the debt and financial expenses. Therefore, dividends role in reducing agency costs is limited in these firms and hence a weaker dividend announcement effects will be experienced by the firm with higher leverage ratios. Under the second argument i.e. signaling theory of Ross (1977), it is argued that firms with good quality try to differentiate themselves from bad quality firms by using high leverage ratio. Therefore, investors interpret the dividend signals of the companies with higher leverage ratios as favorable as the investors anticipate that the managers of such good quality firm will be able to continue paying dividends in the future.

Empirical results regarding the association of the dividend news effects with leverage are mixed. Few studies have supported cash flow or agency theory by reporting negative association (Healy et al., 1997; and Alonso et al., 2005). Contrarily, Allen and Rachim (1996), Vieira (2011) and Zakaria et al. (2012) have supported signaling theory by reporting positive relation between the

dividend announcement effects and leverage.

Literature suggests that the agency cost argument generally favors Pakistani environment more than the signaling theory regarding the role of leverage in determining different factors related to corporate finance and corporate performance (Nazir and Saita, 2013; Khan, Kaleem and Nazir, 2012; and Satti, 2013). However, this study has tested two hypotheses based on the agency and the signaling theory in the light of empirical results reported from different countries.

*H3a:* Negative association exists between the leverage of the firm and the stock market reaction to dividend news. Hence, abnormal returns associated with dividend news of firms with low level of leverage are greater as compared to the abnormal returns associated with the dividend announcement of the firms with high level of leverage.

*H3b:* Positive association exists between the leverage of the firm and the stock market reaction to the dividend news. Hence, abnormal returns associated with dividend news of firms with low level of leverage are lesser as compared to the abnormal returns associated with the dividend announcement of firms with high level of leverage.

#### *Dividend yield*

Dividend yield is one of the main factors that affect abnormal returns around dividend announcement days (Yoon and Starks, 1995; and Lee and Yan; 2003). The impact of dividend yield on share price reaction to dividend news can be explained in the context of agency cost and signaling theories. Both of the theories predict positive association between dividend announcement effects and dividend yield (Ariff and Finn, 1986; Lee, 1995; and Belde et al., 2005). Under the agency cost framework, it is argued that high dividend yield helps in reducing agency conflicts in the firm. Hence, keeping other variables constant, the higher the dividend yield associated with the dividend announcement, the stronger will be the stock market reaction to the dividend news. Contrarily, under the signaling theory, it is argued that high dividend yield depicts that future prospects of a firm are good, therefore, dividend announcements that are accompanied by high dividend yield are perceived as a more favorable signal as compared to a dividend announcement with low dividend yield. Hence, a dividend announcement with high dividend yield induces stronger stock market reaction.

The earning response coefficient is dependent upon the earning retention rate, among other variables. Butler and Han (1994) argues that the share price reaction to the announcements is a function of earning surprise and earning response coefficient. They use dividend yield as a proxy for earning retention rate because actual earnings' retention rate can go to unreasonable range if a firm has zero earnings or negative earnings. Dividend yield has been calculated as the per share dividend divided by the price of share five days before the announcement of dividend. Based on the above literature, this study has tested the following hypothesis:

*H4:* Positive association exists between the dividend yield and the dividend announcement effects. Hence, abnormal returns associated with the dividend announcements of the firms that are accompanied by higher dividend yield will be greater as compared to the dividend announcement of the firms that are accompanied by lower dividend yield.

### *Growth opportunities*

Different studies have used growth opportunity as a control variable while examining relationship between different factors and stock market reaction to the dividend news (Vieira, 2005; Zakaria et al., 2012; Vieira, 2011; Neil and Robert, 2009; Vieira, 2012 and Andres et al., 2011). Past studies including Vieira (2011) and Andres et al. (2011) have used Tobin's Q as a measure of investors' expectation about the growth prospect of a firm and market to book value of equity (MV/BV) ratio as a proxy of Tobin's Q. Thus, MV/BV has been used as a proxy of growth opportunity by this study also. According to Vieira (2011), high MV/BV shows that investors think that the firm has higher future growth prospects. Firms with lower MV/BV ratios are considered to have higher level of free cash flow and thus will be able to pay more dividends. Therefore, reaction of stock market is more strong to dividend news of firms that have lower MV/BV ratio, hence negative coefficient is expected for this variable. Among the past studies that have used MV/BV as control variable, Zakaria et al. (2012) and Andres et al. (2011) have found no significant influence of this variable on the stock market reaction to the dividend news while Vieira (2011), Neil and Robert (2009) and Vieira (2005) have found negative relationship between MV/BV and the dividend news effects. Apart from MV/BV ratio, this study also used price to earnings (P/E) ratio as proxy for investment opportunities by following Basu (1977) and Reinganum (1981). Both these studies reported negative association.

### **Methodology**

#### *Sample and Data Sources*

This section discusses the data sources, the data collection methods, the data analysis tools, and variables. For the purpose of the data collection, this study used simple random sampling technique. The sampling period ranges from year 2008 to 2012. During this sampling period, 136 firms announced 206 annual dividends. Therefore, we analyze 206 annual dividend announcements of 136 firms over the above-mentioned sampling period.

The data of dividend announcements and the stock prices have been extracted from the KSE database. Data about the firm-specific variables and ownership structure were gathered from the annual reports of the firms.

#### *Model Specification*

For testing the association of the above-mentioned variables with the dividend news effects, this study has utilized standard event study methodology. For generating abnormal returns market model has been utilized. Equation of the market model is specified as under:

$$R_{it} = \alpha_i + \beta_i(R_{mt}) + \varepsilon_{it}$$

Where,

$R_{it}$  is return rate of security  $i$  at day  $t$

$R_{mt}$  is the rate of return of market at day  $t$

$\alpha_i$  is constant

$\beta_i$  is the sensitivity of the expected asset return to the expected market return calculated as

$$\beta_i = \frac{\text{Covariance}(R_i, R_m)}{\text{Variance}(R_m)}$$

For the purpose of estimating the parameters of market model, 100 daily continuously compounded returns are used which ranged from approximately 145 days before the announcement date. KSE-100 Index is used as a market proxy. Ordinary least square method has been utilized for estimating the market model parameters. After estimating the parameters of market model, the following equation has been used to calculate the expected returns:

$$E(R_i) = \hat{\alpha}_i + \hat{\beta}_i(R_m)$$

Where,

$E(R_i)$  is the expected return on stock  $i$  at day  $t$

$\hat{\alpha}_i$  is the estimated intercept of market model for stock  $i$

$\hat{\beta}_i$  is the estimated beta of market model for stock  $i$

For each dividend announcement, abnormal returns are calculated after estimating the market model parameters, by using the following equation:

$$AR_{it} = R_{it} - E(R_i)$$

$$AR_{it} = R_{it} - \hat{\alpha}_i + \hat{\beta}_i(R_m)$$

Where,

$AR_{it}$  is the stock  $i$  abnormal return at day  $t$

$R_{it}$  is the actual stock  $i$  return at day  $t$

Abnormal returns, in case of each event (dividend announcement), are calculated for all event windows. After calculation of abnormal returns, average abnormal returns (AAR) and cumulative abnormal returns (CAAR) are calculated for all event windows. After calculating AAR and CAAR, univariate and multivariate analysis has been performed. Before performing univariate and multivariate analyses to test the association between dividend news and aforementioned independent variables, the significance of the AAR and CAAR of the event windows mentioned before has been checked by using student t-test on overall sample.

For univariate analysis, independent samples t-test has been used while for multivariate analysis, regression analysis has been performed. In univariate analysis, independent sample t-test has been performed on AAR and CAAR of lower 50th and upper 50th percentile of each variable (excluding family ownership in case of which test has been conducted on AAR and CAAR of family and non-family groups). In multivariate analysis, regression has been run by using both AAR and CAAR as dependent variables. The following are the regression equations with a full set of explanatory variables:

$$AR_t = \alpha + \beta_1 \text{Family} + \beta_2 \text{LMV} + \beta_3 \text{Leverage} + \beta_4 \text{DY} + \beta_5 \text{MV/BV} + e \dots (1)$$

$$CAAR_t = \alpha + \beta_1 \text{Family} + \beta_2 \text{LMV} + \beta_3 \text{Leverage} + \beta_4 \text{DY} + \beta_5 \text{MV/BV} + e \dots (2)$$

Where,

$AAR_t$  is average abnormal return of specific event window

$CAAR_t$  is cumulative average abnormal return of specific event window

$\beta_1$  is the co-efficient of family and indicates relationship between family ownership and  $AAR_t$  and  $CAAR_t$

$\beta_2$  is the co-efficient of LMV (firm size) and indicates relationship between firm size and  $AAR_t$  and  $CAAR_t$

$\beta_3$  is the co-efficient of leverage and indicates relationship between leverage and  $AAR_t$  and  $CAAR_t$

$\beta_4$  is the co-efficient of leverage and indicates relationship between leverage and  $AAR_t$  and  $CAAR_t$

$\beta_5$  is the co-efficient of growth opportunity (MV/BV) and indicates relationship between MV/BV and  $AAR_t$  and  $CAAR_t$

Before performing these formal tests to determine the relationship between four aforementioned independent variables and stock market reaction to dividend news, a series of diagnostic tests were conducted to identify problems in the data. Details of these diagnostic tests and remedial actions are not reported for the sake of parsimony.

## Results and Discussion

### *T-tests Results*

Table 1 below reports mean values of AAR and CAAR for the event windows ranging from five days prior to dividend announcement to five days after dividend announcements. All tables in this paper were constructed using *asdoc* program of Shah (2018).

Table 1 shows that p-values of mean values of AAR and CAAR are statistically significant only in few event windows. For example,  $AAR_{t-2}$ ,  $AAR_{t+5}$ ,  $CAAR_{t-2}$ ,  $CAAR_{t-1}$ ,  $CAAR_{t0}$ ,  $AAR_{t-2}$ ,  $AAR_{t-5}$  and  $CAAR_{t-2}$  are significant at five percent level while  $CAAR_{t-1}$  and  $CAAR_{t0}$  are significant only at the 10 percent level. Averages of all these significant AARs and CAARs are positive which shows that market reacts positively to the announcements of dividend. Moreover, significance of  $AAR_{t-2}$ ,  $CAAR_{t-2}$ , and  $AAR_{t-1}$  indicates leakage of information about the dividend announcements prior to announcement of these dividends.

For further analysis, those event windows have been used analysis that have significant AARs and CAARs. Therefore, we use  $AAR_{t-2}$ ,  $AAR_{t-5}$ ,  $CAAR_{t-2}$ ,  $CAAR_{t-1}$ , and  $CAAR_{t0}$  as dependent variables in the regressions analysis to test their relationship with the previously mentioned four explanatory variables.

Table 1

*Means and T-Tests of the Abnormal Returns in Different Event Windows*

Variables	Mean	P-value	Variables	Mean	P-value
AAR-5	0.144%	0.383	CAAR-5	0.144%	0.383
AAR-4	0.197%	0.175	CAAR-4	0.196%	0.372
AAR-3	-0.050%	0.756	CAAR-3	0.253%	0.318
AAR-2	0.355%	0.025	CAAR-2	0.901%	0.000
AAR-1	0.008%	0.976	CAAR-1	0.582%	0.087
AAR <sub>0</sub>	-0.053%	0.826	CAAR <sub>0</sub>	0.871%	0.072
AAR <sub>1</sub>	-0.034%	0.875	CAAR <sub>1</sub>	0.755%	0.174
AAR <sub>2</sub>	0.077%	0.626	CAAR <sub>2</sub>	0.266%	0.646
AAR <sub>3</sub>	-0.051%	0.717	CAAR <sub>3</sub>	-0.096%	0.868
AAR <sub>4</sub>	0.011%	0.91	CAAR <sub>4</sub>	-0.108%	0.857
AAR <sub>5</sub>	-0.321%	0.017	CAAR <sub>5</sub>	-0.381%	0.549

*Univariate Analyses*

This section presents and discusses results of the t-tests to find whether firm-specific variables moderate reaction of stock market to dividend news. The median values of each firm-specific variable is used to divide firms into two above 50th and below 50th percentiles, except for family ownership for which the groups have been made based on family vs. non-family status of firms. Then AAR and CAAR have been calculated for these groups of firms. Table 2 reports that mean differences of these abnormal returns under the heading of each firm-specific variable that have been used for making group of firms. For example, the column with heading 'Size' shows the mean abnormal returns of firms that are in the 50th top percentile of firm size minus mean abnormal returns of firms that are in the bottom 50th percentile of firm size.

The results show that family firms have lower abnormal returns than non-family firms. The p-values show that the mean differences are significant only in case of AARt-5 at one percent level of significance and in case AARt-2 at five percent level of significance. Results also show that reaction of stock market to dividend news is stronger for smaller firms as compared to larger firms. This is evident from the column with the heading 'Size', showing that mean differences of CAARt-2 and CAARt<sub>0</sub> are negative and statistically significant. Results also depicts that firm's leverage ratio significantly moderates the dividend news effects. For example, mean differences in abnormal returns are significantly higher for dividend announcements in firms with lower leverage ratios as compared to firms that have high leverage ratios. Finally, there is some evidence that firms with lower dividend yield experience more reaction to dividend announcements as compared to firms with higher dividend yield.

This section presents and discusses results of the t-test to find

Table 2

*Mean Differences in Return*

Event Window	Family	Size	Leverage	Dividend Yield
AAR <sub>-2</sub>	-0.00724**	0.00159	0.0022	0.0003
AAR <sub>5</sub>	-0.00782***	0.00389	-0.00781***	0.00625**
CAAR <sub>-2</sub>	0.0031	-0.01475***	-0.01619***	-0.00239
CAAR <sub>-1</sub>	0.066	0.048	-0.0217***	-0.00211
CAAR <sub>0</sub>	0.00134	-0.03211***	0.00574	0.0409***

*Regressions Results*

Regression analysis results are reported in Table 3. The coefficients of the dummy variables used to indicate family firms are negative in all the event windows, except CAARt-1 where it is positive. In line with the results reported in univariate analysis, coefficient of family dummy is significant and negative in AARt-2 and AARt-5 while it is insignificant in case of the rest of the event windows. It shows that announcement effects of family firms are weaker as compared to announcement effects of non-family firms. This finding supports the agency theory explanation that family ownership reduces conflict between principal and agent and hence dividends lose its importance as a tool to reduce agency costs.

The results show that the firm size coefficient is negative and statistically significant in case of CAARt-2 and CAAR0 while coefficients of abnormal returns in other event windows are insignificant. Result of the regression analysis supports the findings of univariate analysis as reported in Table 2. These findings show that abnormal returns due to dividend announcements are significantly lower for firms that are placed in the top 50th percentile of the firm size as compared to the firms that are in the bottom 50th percentile. These results are in line with information asymmetric theory of Miller and Rock (1985), Bhattacharya (1979), and John and Williams (1985) that predicts that small firms face more information asymmetry problems and hence dividends are an effective tool for them in reducing information asymmetry costs.

Table 3

*Regression Results*

Independent variable	Family Ownership	Firm size	Leverage	Dividend yield	MV/BV	P/E	R <sup>2</sup>	Adj.R <sup>2</sup>
AAR <sub>-2</sub>	-0.008***	0.001	0.002	-0.001	-0.004	-0.003	0.132	0.104
AAR <sub>5</sub>	-0.007***	0.001	-0.005**	0.006**	0.004	-0.006**	0.342	0.317
CAAR <sub>-2</sub>	-0.002	-0.018***	-0.016***	0.006	-0.004	0.004	0.222	0.209
CAAR <sub>-1</sub>	0.01	0.001	-0.02***	-0.008	0.002	-0.013*	0.158	0.131
CAAR <sub>0</sub>	-0.0111	-0.028***	0.005	0.036***	0.012	0.002	0.209	0.184

Leverage coefficient is negative and significant in case of AARt+5, CAART-2 and CAART-1. These results indicate that negative relationship exists between leverage and dividend news effects. Our results support the free cash flow argument of agency theory which suggests that agency costs are lower in firms that have high leverage ratio; hence dividend announcement effects are weaker in such firms. Positive and statistically significant dividend yield coefficient is reported in case of AARt+5 and CAART0 while it is insignificant in all other event windows. Generally, the results suggest that firms with higher dividend yield experience strong dividend announcement effects.

MV/BV and P/E ratio have been used as alternative proxies for firm's investment opportunities. Results in Table 3 show that MV/BV has no significant influence on the dividend announcement effects. This finding is consistent with Zakaria et al. (2012) and Andres et al. (2011) who found no significant influence of this variable on dividend announcement effects. However, the second proxy for investment opportunities, the P/E ratio, has statistically significant negative coefficient in case of AARt-5 and CAART-1. These findings suggest that dividend announcement effects are weaker for firms with higher growth opportunities and stronger for firms that have less investment opportunities.

### Conclusion

This study has empirically sought to determine the relation between the dividend announcement effects and the firm-specific factors including family ownership, dividend yield, firm size and leverage ratio of firms. Results of two-sample t-test indicate that only AARt-2, AARt+5, CAART-2, CAART-1 and CAART0 are significant, therefore, cumulative abnormal returns and abnormal returns of these event windows were used as dependent variables in the regression analysis. Both multiple regression and univariate analyses have been employed to determine the moderating role of the firm-specific independent variables on the market reaction to the dividend news. The results of both univariate and regression analyses are consistent. Negative relation is reported between the abnormal returns and the family ownership. It affirms that the stock market gives lesser importance to the dividend announcement of family firms than the announcements of non-family firms. This might be because of lower level of agency problems in the family firms as suggested by the Jensen and Meckling's (1976) agency hypothesis. Further, this study discovered a negative association between the size of the firm and the dividend news effect. This negative relation is explained by the information asym-

metry theory of John and Williams (1985), Bhattacharya (1979), and Miller and Rock (1985). This finding is in line with the finding of other empirical studies such as Gugler and Yurtoglu (2003), Andres et al. (2011), Eddy and Seifert (1988) and Amihud and Li (2006). Next, a negative association is found between the abnormal returns and the leverage. This negative association is in line with Jensen's (1986) agency theory. Further, a positive relation is found between the dividend yield and the dividend abnormal returns. Among the control variables, this study found that investment opportunities measured by MV/BV have no effect on the share price reaction to the dividend announcement while P/E ratio has significant negative effect on abnormal returns. These findings show that the reaction of the stock market to the dividend announcement is heterogeneous. Firms with significant agency problems and information asymmetry problems experience positive abnormal stock returns when they announce dividends.

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